

B.M.: RR Spike in Power Pole
Sta. 14+97, 40' Rt.
Elev. 560.55

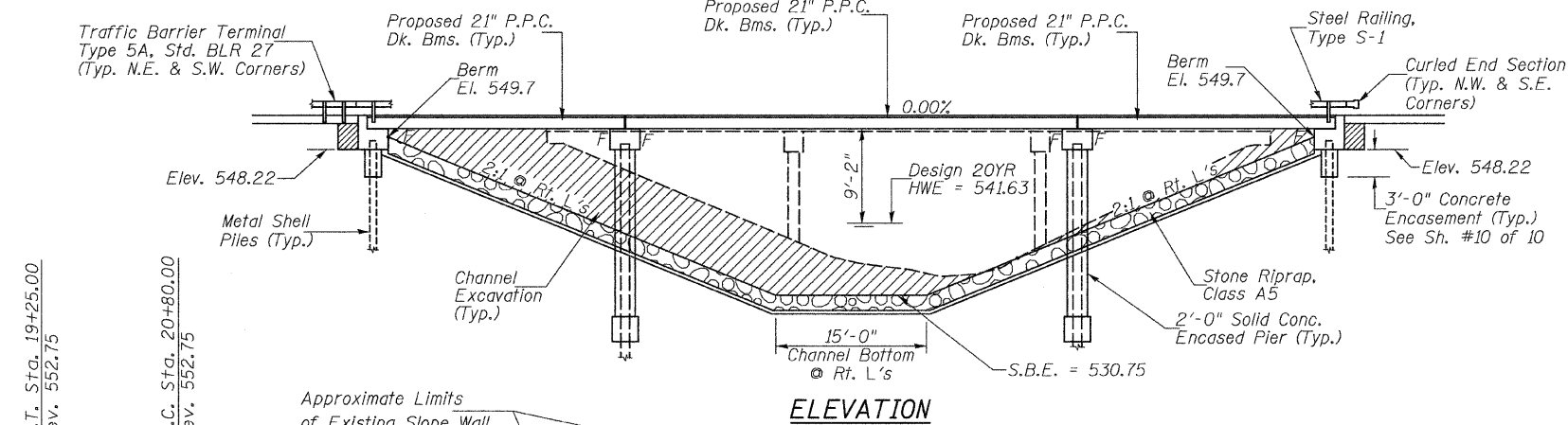
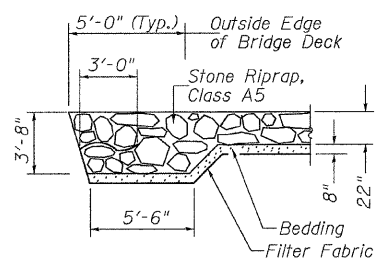
RR Spike in Power Pole
Sta. 25+65, 38' Rt.
Elev. 552.82

Existing Structure:

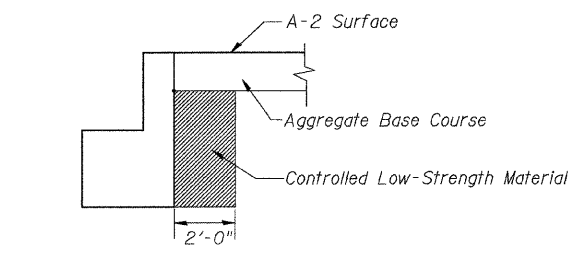
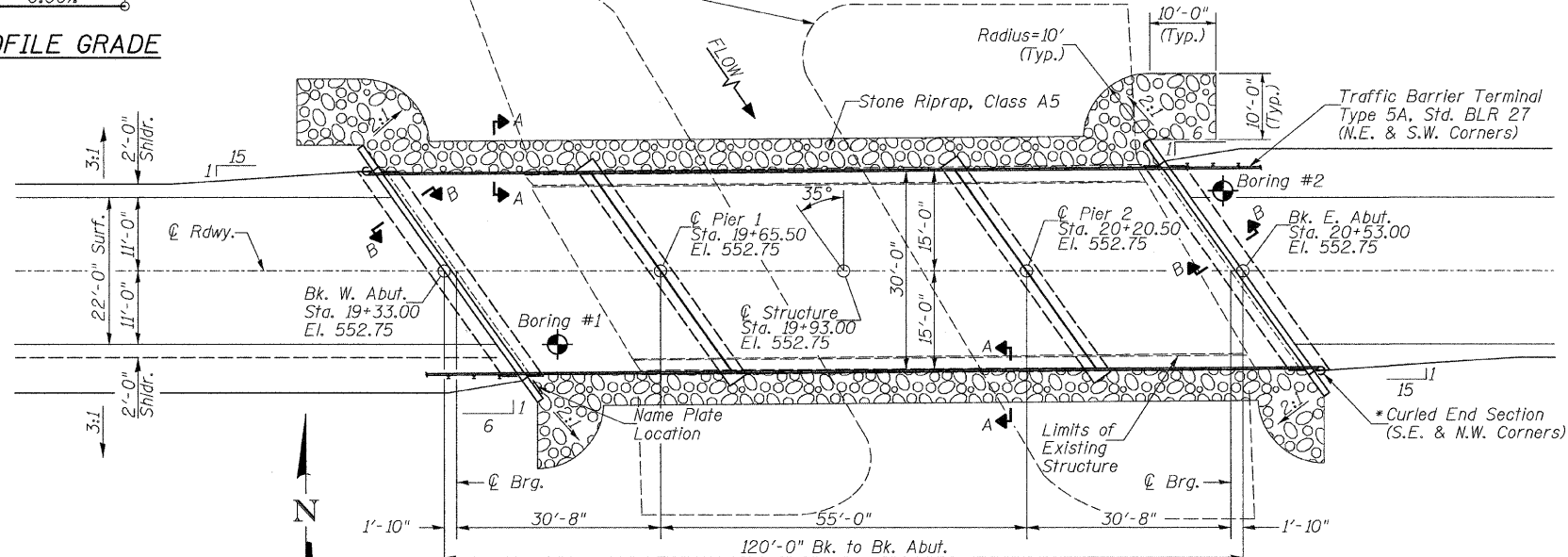
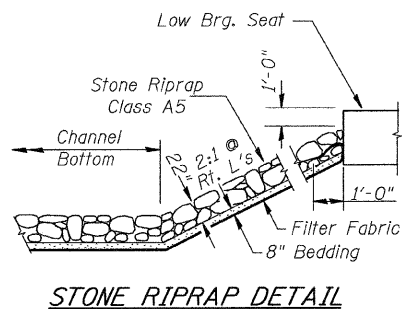
Three span PPC deck beam superstructure with steel rail on concrete spill thru pile bent abutments and concrete capped pile bent piers on exposed precast concrete piling. The structure is ±93' back to back of abutments, ±30' out to out of deck and is skewed 30° with concrete slopewalls on the embankment cones. Str. No. 069-3032

Salvage: None

Road to be closed to traffic during construction.



PROFILE GRADE



DESIGN SCOUR TABLE

| Location | W. Abut | Pier 1 | Pier 2 | E. Abut |
|------------------------|---------|--------|--------|---------|
| Design Scour Elevation | 548.22 | 526.69 | 526.69 | 548.22 |

WATERWAY INFORMATION

Drainage Area = 10.59 Sq. Mi. Low Grade Elev. = 552.55 @ Sta. 22+00.00

| Flood Yr. | Q | C.F.S. | Opening | Nat. | Head - Ft. | Headwater El. |
|-----------|-----|--------|---------|--------|------------|-------------------------|
| | | | Sq. Ft. | H.W.E. | Exist. | Prop. |
| Design | 20 | 1,550 | 211 | 386 | 541.63 | 0.99 0.00 542.62 541.63 |
| Base | 100 | 2,300 | 268 | 460 | 542.92 | 1.45 0.01 544.37 542.93 |

Construction of this project complies with IDNR, Office of Water Resources Statewide Permit No. 2

DESIGN SPECIFICATIONS

2007 AASHTO (LRFD) & Interims

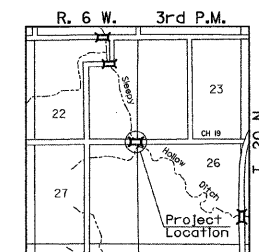
DESIGN STRESSES

(FIELD UNITS) $f'_c = 3,500$ p.s.i. $f_y = 60,000$ p.s.i. (Rein.)

(PRECAST PRESTRESSED UNITS) $f'_c = 6,000$ p.s.i. $f'_{ci} = 5,000$ p.s.i. $f'_s = 270,000$ p.s.i. ($\frac{1}{2}$ " Strands) $f'_{si} = 201,960$ p.s.i. ($\frac{1}{2}$ " Strands)

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.



GENERAL NOTES

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles. For Soil Boring Logs, See Special Provisions. A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Article 1020.05(b)(12) of the Standard Specifications. Reinforcement Bars shall conform to the requirements of ASTM A706 Grade 60. Reinforcement Bars designated (E) shall be epoxy coated. Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer. The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

**SLEEPY HOLLOW DITCH
BUILT 2011 BY
MASON COUNTY
SEC. 08-00035-01-BR
C.H. 19 STATION 19+93.00
F.A. PROJ. BRS-1595(104)
STR. NO. 063-3033 LOADING HL-93**

NAME PLATE

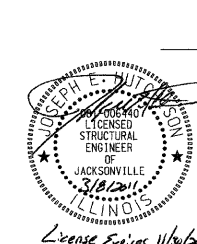
Locate Name Plate at S.W. Wingwall Corner of Bridge (See Std. 515001)

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|-------|-------|--------|--------|
| Channel Excavation | CU YD | — | 970 | 970 |
| Stone Riprap, Class A5 | TON | — | 710 | 710 |
| Filter Fabric | SQ YD | — | 600 | 600 |
| ① Removal of Existing Structures | EACH | — | — | 1 |
| ① Slope Wall Removal | SQ YD | — | 675 | 675 |
| Structure Excavation | CU YD | — | 240 | 240 |
| Concrete Structures | CU YD | — | 150.0 | 150.0 |
| ① Precast Prestressed Concrete Deck Beams (21" Depth) | SQ FT | 3,528 | — | 3,528 |
| Reinforcement Bars | POUND | — | 12,680 | 12,680 |
| ① Steel Railing, Type S1 | FOOT | 240 | — | 240 |
| Furnishing Metal Shell Piles 12"x0.250" | FOOT | — | 1,130 | 1,130 |
| ① Driving Piles | FOOT | — | 1,130 | 1,130 |
| ① Test Pile Metal Shells | EACH | — | 4 | 4 |
| Concrete Encasement | CU YD | — | 9.5 | 9.5 |
| Name Plates | EACH | — | 1 | 1 |
| ① Controlled Low-Strength Material | CU YD | — | 19.2 | 19.2 |
| ① Underwater Structure Excavation Protection, Location 1 (Pier #1) | EACH | — | 1 | 1 |
| ① Underwater Structure Excavation Protection, Location 2 (Pier #2) | EACH | — | 1 | 1 |
| ① Bituminous Surface Treatment, A-2 Special | SQ YD | 400 | — | 400 |

① See Special Provisions

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway Bridges. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.



Joseph E. Witt 3/18/2011
Illinois Structural No. 6440
Expires 11/30/2012

GENERAL PLAN & ELEVATION

**MASON COUNTY
SECTION 08-00035-01-BR
C.H. 19 OVER SLEEPY HOLLOW DITCH**

| | |
|----------|--------|
| DESIGNED | C.T.M. |
| CHECKED | J.E.H. |
| DRAWN | C.E.T. |
| CHECKED | J.E.H. |

| SHEET NO. 1 | ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------------------|-----------|----------------|--------------------------------|--------------|-----------|
| 10 SHEETS | CH 19 | 08-00035-01-BR | MASON | 22 | 7 |
| S.N. 063-3033 | | | CONTRACT NO. 93549 | | |
| FED. ROAD DIST. NO. 7 ILLINOIS | | | FED. AID PROJECT BRS-1595(104) | | |